

REMARKS

Favorable reconsideration and withdrawal of the rejection set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims Status

Claims 13 through 22 remain pending in the application. Claims 13, 14, and 17 through 22 have been amended to even more succinctly define the invention and/or to improve their form. It is respectfully submitted that no new matter has been added. Claims 13 and 18 are the only independent claims pending in the application.

Section 103 Rejection

Claims 13 through 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,669,277 (Perrone) in view of U.S. Patent No. 6,241,234 (Saitoh, et al.).

The rationale underlying the rejection is succinctly set forth in the Official Action.

Response to Rejection

The rejection is respectfully traversed.

Amended Claim 13 calls for a sheet punching device for cutting holes in a sheet while punches are entering die holes. The sheet punching device includes a plurality of punch trains, each of which includes a plurality of the punches axially aligned on a rotating shaft and projecting in a radial direction of the shaft. An initial position detecting sensor detects an initial position of each of the plurality of the punch trains. A sheet end detecting sensor detects an end of the sheet. The plurality of punch trains are disposed with a phase difference in a rotation direction of the shaft relative to one another, and the die holes are

disposed in correspondence with the plurality of punches. One of the plurality of punch trains cuts holes in the sheet at a predetermined timing based on signals from the initial position detecting sensor and the sheet end detecting sensor.

Perrone discloses a die-punching apparatus for punching holes in a sheet. In Perrone, a desired pattern of punch holes can be selected by individually selecting punch holes at locations from among twenty-three locations. See column 2, lines 56 and 57. Hole-punching die members 42 and 44 are mounted in mounting openings 60 and 62 provided in rollers 16 and 18 at locations corresponding to the desired pattern of punch holes. In Figure 1, the hole-punching die members 42 are mounted in three of the mounting openings 60 so that three holes 36 are punched in a sheet. See column 2, line 45 to column 3, line 20.

In Perrone, the desired pattern of punch holes results in only one pattern of punch holes at locations selected from among twenty-three locations. The die-punching apparatus must be stopped to mount the hole punching die members 42 and 43 in different mounting openings 60 and 62 to change the pattern of punch holes. Perrone does not disclose or suggest a plurality of punch trains disposed on a roller. Perrone is distinguishable from the claimed invention in which hole-punching members need not be re-mounted every time a desired pattern a plurality of hole is changed. *A fortiori*, Perrone does not disclose or suggest selectively using one of a plurality of punch trains provided on a rotating shaft to effect a plurality of hole patterns.

In addition, Perrone does not show or suggest an initial position detecting means and a sheet end detecting means. The Examiner recognizes these shortcomings of Perrone and relies on Saitoh, et al. for allegedly disclosing such features.

Saitoh, et al. also discloses a sheet processing apparatus including a hole punching means 60. After a sheet detection sensor 31 detects a trailing edge of a conveyed sheet, a punch driver motor 66 is driven with predetermined timing so that a hole punching means 60, including a punch 61 and die 62 pair, cuts holes in the sheet. See column 12, lines 1 through 17.

Saitoh, et al. discloses a sensor 71 for detecting whether the hole punching means 60 is at an initial position. The hole punching means 60 is drivable in directions D and E, which is perpendicular to a sheet conveyance direction. Saitoh, et al. does not disclose a sensor for detecting an initial position of the punch 61 and die 62 pair *per se*. See column 12, lines 37 through 49. *A fortiori*, Saitoh, et al. does not disclose or suggest a sensor for detecting an initial position of each of a plurality of punch trains.

Accordingly, it is respectfully submitted that there are patentable distinctions between amended Claim 13 and the cited art whether taken individually or in combination.

It is also respectfully submitted that the combination rejection is not well founded. The Examiner has provided a *rationalization* for combining the teachings of the cited art based on the benefits of doing so. Specifically, the Examiner suggests that Perrone can be modified to function in a manner, which is different from the manner disclosed, by applying the teachings of Saitoh, et al. A combination rejection is proper only when there is some suggestion or motivation in the cited art *per se* to cause one having ordinary skill in the art to combine the teachings of the cited art. There is nothing in the cited art which supports the position that the teachings of Perrone can be or should be combined with the teachings of Saitoh, et al. in the manner suggested by the Examiner to arrive at the claimed invention. Even if the art could be so combined, the mere fact that the art can be combined

is not sufficient if there is no suggestions in the art that such a combination is desirable. For example, see ACS Hospital Systems, Inc. v. Montefiore Hospital, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

Amended Claim 18 calls for a sheet punching device for punching holes in a sheet. The sheet punching device includes a first rotatable shaft. A plurality of punch trains are disposed on the first shaft. Each of the plurality of punch trains includes a plurality of punches extending radially from the first shaft. The plurality of punches are arranged in parallel with one another in an axial direction of the first shaft. An initial position detecting sensor detects an initial position of each of the plurality of punch trains. A sheet end detecting sensor detects an end of the sheet.

The sheet punching device also includes a second rotatable shaft. A plurality of dies are disposed on the second shaft and positioned so that die holes formed in the plurality of dies correspond with the plurality of punches during an operation of the sheet punching device. One of the plurality of punch trains cuts holes in the sheet at a predetermined timing based on signals from the initial position detecting sensor and the sheet end detecting sensor.

As seen in the foregoing discussion, Claim 18 features a plurality of punch trains on a first shaft and an initial position detecting sensor similar to features recited in amended Claim 1. Accordingly, it is respectfully submitted that Claim 18 also is allowable over the cited art for at least the same reasons discussed above with respect to amended Claim 1.

In view of the foregoing, it is respectfully submitted that independent Claims 1 and 18 are allowable over the cited art whether taken individually or in combination.

Dependent Claims


Claims 2 through 17 and 19 through 22 depend either directly or indirectly from one of Claims 1 and 18 and are allowable by virtue of their dependency and in their own right for further defining Applicants' invention. Individual consideration of the dependent claims is respectfully requested.

Closing Comments

It is respectfully submitted that the claims on file are allowable over the art of record and that the application is in condition for allowance. Favorable reconsideration and early passage to issue of the present application are earnestly solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our New York office at the address shown below.

Respectfully submitted,


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